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ABSTRACT

This collection of 10 essays is the outgrowth of a 1983 Accrediting Commission meeting which examined the implications for accreditation of the "Green Chair Group" report entitled "Predicting Distant Education in the Year 2001," an earlier document containing the predictions of 25 educators and executives concerning correspondence or home study education. Prepared by Commission members to stimulate further reflection and discussion and to address specific aspects of distant education as it relates to accreditation issues, the following essays are presented: (1) "The Accrediting Commission Looks to 2001," by Fred Harcleroad; (2) "Stimulating Innovation: The Accrediting Commission's Responsibility," by Hester Turner; (3) "Stimulating Innovation: Obligation to the Future," by John Thompson; (4) "New Program/School Eligibility," by James Godfrey; (5) "New Eligibility Language," by Jules Fleder; (6) "Maintaining Integrity: Proceed with Caution," by Roy Stuart; (7) "Maintaining Integrity: Remember the Student," by Carl Ruppert; (8) "Assessment Tools for 2001," by Harold Rodes; (9) "The Question of Turf," by John Phillips; and (10) "Home Study's Crystal Ball," by William Fowler. Appendices contain the Final Report Prediction of the Green Chair Group; ERIC Fact Sheet #22, "Communications Technologies in Adult, Career, and Vocational Education"; a 14-item reading list; and a 56-item reference list. (LMM)

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1983

DISTANT EDUCATION IN 2001: ACCREDITATION & QUALITY

The Accrediting Commission Looks at the Evolving Forms of Correspondence Instruction

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INTRODUCTION

In 1981, twenty five distinguished educators and executives donned their futurist caps and set about recording their best guesses as to what correspondence or home study education will be like in the year 2001.

The group included representatives from private home study schools, university independent study departments, state government licensing bodies, the federal government and private trade associations. They called themselves "The Green Chair Group," -- the color of the chairs in the National Home Study Council's conference room.

Their predictions for the future were captured in a report called "Predicting Distant Education in the Year 2001" (NHSC, 1982, $8.00).

The Group settled on the phrase "Distant Education" -- or DE for short -- because it seemed to cut across idealogical and political shibboleths which have historically clouded objective perception of the method being described. Correspondence study seemed to connote an antiquated postal system (which some felt may not be around in its current form in 2001), and independent study and home study were labels originally cast to describe more the student setting than the method itself.

The predictions of the group are printed in Appendix 1. These seem cautious in light of "technology 1983-style," but we must bear in mind that home study educators have seen dozens of technological flashes-in-the-pan over the years.

The Green Chair Group's report received wide distribution. A number of magazine and newspaper features resulted as the distant study method received enthusiastic and renewed interest from journalists, commentators and other educators.

The National Home Study Council, which convened the group and disseminated the report, is taking seriously the implications found in this report.

If it is true that new technologies and new methods of communication will revolutionize the distant study method, the Council wants to place itself squarely in the forefront of this revolution. The Council's Board of Trustees formed a Task Force for Constitution and Bylaws review to evaluate the emerging new technologies, formats and suppliers of distant education to see how and if these new groups can or should be integrated into the mainstream of "traditional" correspondence education and the NHSC's organization and activities. At this writing, the Task Force is actively pursuing its work.

The independent, nationally recognized Accrediting Commission of the National Home Study Council is also keenly interested in the work of the Green Chair Group. In 1983, the Accrediting Commission members met to discuss the implications of the Green Chair Report for accreditation -- in particular, NHSC's accrediting program. The Commissioners agreed to prepare succinct essays on particular aspects of the future of distant education as it relates to accreditation matters.

Each member of the Accrediting Commission chose a selected topic to reflect on and write about. The papers range from specific concerns about assessment tools needed to evaluate distant education to general issues such as the preservation of educational integrity.

The essays of the nine Commissioners make up this report.

These papers are presented to stimulate further reflection and discussion. They should be of particular interest to today's home study educators as they move ahead to shape the exciting future predicted by the Green Chair Group.

Taken as a whole, the essays reflect a thoughtful concern about the future of distant education. While necessarily brief, they represent the individual viewpoints of talented, innovative people who are committed to remaining both open minded to the future and zealous about protecting the quality of accredited programs and institutions.

Paramount in the analyses which follow is the recurring theme that quality must not be compromised in the quest for technological parity by the different suppliers of distant education. The positive image of the home study method projected by the media over the past two years must be nurtured and documented by deeds. The overriding message is that there will be no compromising of quality by the NHSC Accrediting Commission.

We commend to you the essays in this report and we will welcome any comments you may wish to contribute to what we believe will continue as a lively dialogue for the next 20 years.

William A. Fowler
Executive Secretary
Accrediting Commission
National Home Study Council

August 1983

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of the
National Home Study Council

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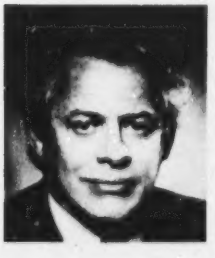

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William A. Fowler is the Executive Secretary of the Accrediting Commission of the National Home Study Council. He joined the NHSC in 1961 and was appointed NHSC Executive Director in 1972.

The Accrediting Commission of the National Home Study Council is the sole nationally recognized accrediting body in the U.S. with a membership that is made up of a majority of people who represent the public interest.

THE ACCREDITING COMMISSION LOOKS TO 2001

by

FRED F. HARCLEROAD

Planning for the future is dangerous but necessary. The Green Chair Group has made a distinct contribution in the Green Chair Report by emphasizing the need to plan for home study's future. In addition, it suggested many of the possible influences in the near future, and some of the possibilities and problems of the more distant future.

Certainly, the technological changes taking place now, and on the drawing boards for the future, make it imperative that modifications in the delivery systems for home study materials, and evaluation of the learning that takes place from them, be carefully considered and tested by those in the field today. Also, certainly, almost every business-like educational operation can use the current models of micro- and minicomputers to handle admissions, records, inventory, payrolls, accounting details, and personnel transactions.

The record is not yet clear, however, that these microcomputers, closed circuit transmission of motion pictures by intricate cable or satellite, interactive computer/cable systems, and their own more sophisticated improvements now in the laboratory can be cost-effective in improving learning. Nor, is it clear that people in the long run will be willing to spend long periods of time in using them as learning support systems.

In the four decades since World War II, there have been several proposed panaceas, in the form of technological devices, which were seized upon by many as the means to transform the delivery of educational materials and improve productivity in learning.

Consider the following: language laboratories, programmed learning by text or on film, videotape, improved motion picture equipment (both optical and magnetic), localized or continental television programming and distribution: all of these had an explosive introduction followed by adaptation of each to mini- markets or selective best use for home study fields or courses where they were most usable.

Now we have the current explosion of digital technology, massive storage and processing capability, and youth who understand it and play with it better than their elders. With computers we face the need to use this "fun" technology for learning, just as the need existed to do it with films which were primarily for entertainment. Will we be able to spend the huge sums required to develop software for learning, or will education software have many of the same problems that held back the use of educational films?

Currently, the Marine Corps is looking seriously at the use of large numbers of slide-tape materials and machines as the major learning delivery system for home study activity. It appears to be quite cost-effective. Can computer software be developed as effectively and with the cost spread over many learners to make it as cost-effective? These are questions that must be answered.

Futuristic, or even currently available, learning technology must be tested. Wise home study educators of the middle eighties will be doing the testing. Those materials and equipment that the coming generations will accept and use for home study are being tested right now by forward-looking home study educators. They will be the successful ones of the 1990's who will adapt available technology to new learning needs and use those that genuinely contribute to a better learning situation for those who are restricted in some way and must learn all they can, or want to, in the place where they live.

What can the Accrediting Commission of the National Home Study Council do about it? Encourage experimentation with various delivery systems if schools want to try them. Members of the Commission need to keep informed themselves, so they will realize that some new ideas are really worth trying, and still remain accredited. Be sure that the Educational Standards allow formally for such experimentation. Say so in training sessions for evaluators. And, in the long run, regularly review and verify the assumptions that are made by those groups which are trying new ideas and technologies.

It is well to remember that all five of the basic assumptions of the "Commission on the Year 2001" (Daniel Bell and 200 of our "best and brightest," so called by they, themselves) were found to be wrong only five years after they issued their report.

STIMULATING INNOVATION: THE ACCREDITING COMMISION'S RESPONSIBILITY

by

HESTER L. TURNER

The Accrediting Commission has both a critical role and a positive responsibility to stimulate innovative techniques of distant education. Critical in that rigid, unnecessarily restrictive adherence to standards will prevent growth and ultimately diminish the number of accredited schools. Carelessness and failure to maintain standards would destroy integrity and respect for schools and the Accrediting Commission.

The positive responsibility begins with the Commissioners themselves who should be bright, creative, intelligent individuals. They are in an advantageous position to note new, inventive techniques which could be productive for distant education.

The Commissioners should be alert for possible courses, improved methodology, or emerging career fields and make this information available to all schools.

The Commissioners need to understand the factors that motivate people to desire to learn and to discipline themselves to expend the effort necessary to fulfill that desire. Workshops should be promoted so futurists could expand on the factors which they anticipate will be influential on distant education such as some of the papers prepared for the NHSC's Green Chair Report.

STIMULATING INNOVATION: AN OBLIGATION TO THE FUTURE

by

JOHN F. THOMPSON

The Accrediting Commission can best stimulate innovative techniques of distant education through the adoption and support of new accrediting standards which reach out beyond traditional home study. For example, this Commission should encourage applicants for NHSC accreditation from such non-traditional areas as:

a. producers of educational television programs;
b. college and university off-campus courses;
c. adult off-campus courses offered through high schools and community colleges;
d. in-plant and other company designed training programs which employers pursue at home (including TV/audio cassettes)
e. publishers of self-study materials in any subject and for any purpose;
f. computer training and other software programs for personal computers now being sold through computer stores and other retail outlets;

-- plus a host of other existing and forthcoming distant education techniques.

The Accrediting Commission cannot realistically expect to stimulate innovative techniques without first expanding and defining its scope of accreditation and publicizing its expanded scope through NHSC at every opportunity. The mark of accreditation represents a standard of excellence which is desirable and necessary far beyond our traditionally recognized schools.

Let's redefine and expand the charter of the Commission to encourage applicants who are already the innovators in distant education but whom we judge as "misfits" through our restrictive and somewhat prejudiced boundaries of eligibility.

NEW PROGRAM/SCHOOL ELIGIBILITY FOR NHSC ACCREDITATION?

by

JAMES E. GODFREY

Background on Elibility

In essence, existing standards on school eligibility for NHSC accreditation are based on this definition:

> "A correspondence school is defined as one teaching the student through the exchange of printed materials and written examinations: it is an institution that employs qualified faculty members and provides student services. Self study text programs (without examination services) are not considered 'schools' within this definition." (Document 1.1, page 2.)

Although not so stated in the above definition, the use of audio and visual training media by schools has been recognized as a positive factor. Normally, such devices would be used for enhancement and in supplementary ways. An exception, a "mainstream" use of audio, would be exchanges of cassettes by a school with students. In this case, the student's cassette submissions are part of the examination process.

Traditionally, the concept of examinations assumed a series of student submissions during his/her progress through the course.

In January 1978, the Accrediting Commission adopted a position that a single, end-of-course examination would meet the accreditation standards.

In the Accrediting Commission's "Objectives and Special Standards for the Accreditation of Degree Programs by Home Study," reference is made to the above standing definition of correspondence school. However, this further clarification was added:

> "This is an institution which teaches formally enrolled students through the exchange of written material and examinations or structured educational materials such as recordings, films or other training devices."

In the above paragraph, the word "or" would seem to signify the intent of the Accrediting Commission that recordings, films or other training devices could supplant, and not necessarily supplement, traditional written text material. In that sense, full blessings were given to reliance on non-print training media.

Concerning the examination process, though, it should be noted that the Accrediting Commission took a firm stance in its degree program stan-

dards. To begin with, correspondence program graduates must have "Residence Degree Comparability." Further, to assure the integrity of the process, final comprehensive examinations would be proctored by a reputable third party.

Eligibility Language for 2001 (or 1984?)

As an aside, we might wonder how much of 2001 is already upon us now? The Green Chair predictions for 2001 tend to be extensions and expansions of trends now underway. Consider the explosive growth in the use of home computers. Therein lies a mass market for non-print training media -- both for text output from school to student, and a tutorial interface of instructor and student. And here, we should certainly contemplate the feasibility of "computer instructors" to field students' questions and give reponses with text referrals (print or non-print media).

Still, despite the glamour of dealing through computers, or radio or telephone conference calls in the conduct of distant education, the Green Chair Group believed that printed materials and lesson assignments will be key components, and will remain an integral part of distant education in 2001.

I continue to proclaim the ever-continuing value of "the printed word." My personal observation on this subject is:

> "If the non-print media -- audio cassettes, film, video cassettes, etc. -- had somehow predated Johannes Gutenberg et. al., (an unlikely possibility in the scheme of progress!) The advent of printing would be heralded as the miracle of mankind's civilization. 'Wow, look, Ma, words on paper, and I can read them anywhere, and don't need to carry my old cassette player around all the time!'"

Indeed, the same technological progress that moves us into computers has made dramatic advancements in typesetting. Example: remote typesetting by computer, acting on copy sent in telephonically from the word processor at the school. Or, go an easy step further, to the student's home compter with a attached printer; once again, we have new, fresh words on paper, transmitted at 186,000 miles per second (give or take a few).

Conclusions of Eligibility Language

Yes, definitely, eligibility language should be refined to anticipate the broadest conceivable uses of non-print media in distant education.

No, the Accrediting Commission of the National Home Study Council should not deviate from its historic benchmarks in the criteria for bonafide correspondence schools without a considerable amount of soul-searching discussion. To me, I see nothing remiss in the concept of a single, final examination, as long as it is comprehensive in its make-up. And with that, the presence of a faculty to answer students' inquiries would be assumed. Pure self-study, though, without an instructor "back there" and without at least one student submission to show his/her competence in the subject, does not constitute an organized study program. To recognize such self-study would be to give credibility to textbook publishers (or other non-print disseminators) as accredited institutions of instruction. Should the Accrediting Commission enlarge its scope to that extent???

NEW ELIGIBILITY LANGUAGE FOR THE NHSC ACCREDITING COMMISSION

by

JULES G. FLEDER

After an examination of all the documents of the Accrediting Commission which mention eligibility for accreditation, I find that most of the language is inclusive enough to permit the foreseeable changes in home study to be included, with only relatively few changes required:

1. Inquirer's Letter. -- The letter from the Accrediting Commission which is sent to respond to a school inquiry needs no changes.

2. Document 1.1. -- In paragraph b. on the second page the word "texts" should be changed to "materials." Also, on the second page, the fourth paragraph under "Eligibility" should be changed to read: "A correspondence school is defined as one teaching the student through the exchange of lesson material and examinations making use of either printed material and written examinations or electronic media or any combination thereof . . ."

3. Booklet "NHSC Home Study School Accreditation." -- On page one under "What is Home Study" the second sentence should read: When each lesson or segment is completed the student mails or otherwise makes available to the school the assigned work for correction, grading . . ." On page five, (2) should read: Whether the applicant is in fact a correspondence school (defined as one which teaches through the exchange of printed or electronic instructional materials and examinations, which employs . . . On page 6 under "The Subject Specialist Review" the word "texts" should be changed to "instructional materials."

4. NHSC Business Standards. -- Section III, A. Tuition Policies, 1.b. The word "texts" should be changed to "instructional materials."

5. Directory of Accredited Home Study Schools. -- Under "What is Home Study," the second sentence should read: When each lesson is completed the student mails or otherwise makes available to the school the assigned work . . ." (This change was made in the 1983-84 Directory.)

I think that it is important that in opening up the eligibility language we do it in a manner that is the least self-limiting, as changes can always be made again in the future as circumstances require. I definitely do not feel that we should "catalogue" all of the various means of electronic interface that we know of at this time.

MAINTAINING INTEGRITY: PROCEED WITH CAUTION

by

ROY O. STUART

One of the definitions of "integrity" included in Webster's Unabridged Dictionary is stated as:

> "Moral soundness; honesty, freedom from corrupting influences or practice, especially strictness in the fulfillment of contracts; the discharge of agencies' trusts, and the like."

As new technology is developed for use in distant education it will be well to keep this definition in mind. The temptation will be to get caught up in the whirlwind of technological advancements that are already exploding around us. These are wonderful, new opportunities; but we should not completely change from the tried and true methods of teaching without first testing and validating the new ones.

It has been pointed out in the NHSC's Green Chair Report that electronic delivery of distant education is underway. Very little has been said, however, about documenting the effect -- good or bad -- about these changes. Learning may or may not be enhanced with the new "gimmicks" of the electronic world. As we proceed with greater speed down this path, there must be validating methods established to discover the value or lack of value in changing our teaching methods.

To deliver the best product for learning at the fairest price is still the only morally sound and honest way to proceed toward the year 2001. This can only be done by testing the new methods against the old. For example, there may be cost savings in delivering distant learning to groups, instead of individuals, as many suggest, but will the individual learn as quickly and efficiently? We will know only if we establish testing laboratories as these changes take place.

We must take Mr. Webster's definition of integrity seriously, "especially in the fulfillment of contracts." Our school's contract with students is to provide an honest service. That service can only be proper and honest if the methodologies of delivery have been evaluated and found to be sound.

It will be a fast track from now to 2001, and maintaining integrity must not be overlooked in the rush to keep up with the speed of technological advancements.

MAINTAINING INTEGRITY: REMEMBER THE STUDENT

by

CARL W. RUPPERT

Imperatives of distant learning with respect to the "integrity" of message content are objective evaluation and better management of the instructional programs. Monitorship and supervision of the programs become increasingly important and difficult to do.

Objective evaluation will require more than a lukewarm commitment. Effort and concentration will be needed on the part of program administrators, advisory groups and subject matter experts to identify clear-cut objectives (stated in explicit and measurable terms) and the target audiences. Both of these are absolute prerequisites of an objective evaluation program.

If the mechanism for these two conditions are established, then the managers of the programs can address the following issue:

* Student feedback: Mechanisms need to be established for delivering information to the students at a distance and also for receiving student responses and responding to them in an instructionally effective manner. Programs presented by broadcast, teletext or videotext can allow for interaction by the student by means of telephone or two-way radio so that the student can discuss matters with a tutor shortly after the program has been presented. This would be less necessary where instructional programs are provided by a network of microcomputers which have built-in interactive exercises.

* Student Evaluation and Credentialing: Distant learning makes this a very difficult but not insoluable problem. If evaluation is considered a constant process imbedded in the instructional situation rather than a one time effort at a centralized facility, then not only is learning facilitated but evaluation falls out as a natural outcome -- in this case welcomed by the student as well as the instructor. A key to assuring integrity is not to give up monitorship. Unscheduled communication with students for additional information and to track the record of such responses would provide added assurance that learning has taken place.

In the final analysis, the greatest assurance that integrity will be maintained, and few abuses will occur, appears to be the one in place under the present instructional programs. That is, the vast majority of students signing up for programs do so because they are eager to upgrade their current occupational knowledge, are preparing for a career change or wish to broaden their interests with specialized

study participation is a must in order to achieve such goals. Integrity in the instructional programs and student participation is a must in order to achieve such goals.

ASSESSMENT TOOLS FOR 2001

by

HAROLD P. RODES

At a recent meeting of the American Association for Higher Education, it was predicted that "within 20 years, computers will have replaced books as the major delivery device in bringing education to students." This prediction was also in accord with some of the observations of the Green Chair Group of the National Home Study Council.

If this comes to pass, and the trend is certainly in that direction, we must prepare for some modifications in the accreditation process. For example, subject matter specialists must be familiar with both the limitations and expansion made possible by substituting computer pictures and printouts for the printed word and written examinations.

If computers are used in place of books, how will we maintain an effective relationship between teacher and student? Can a computer anticipate all of the questions and difficulties a student might encounter during a programmed source of instruction? What effect will a shift from book learning to computer learning have upon the student's ability to verbalize information and ideas in both written and oral forms?

A recent school survey in Miami, Florida, indicated that the reading ability of elementary students has actually improved in the last five years. However, the reading ability of junior high school students has remained about the same, while the reading level of senior high school students has actually decreased. The experts attribute this to the fact that high school students are reading less and watching television more.

In terms of accreditation it will obviously be necessary to find new means of assessing and evaluating computerized programs of instruction -- their content, delivery systems, testing processes, student evaluation of the programs, and also input from employers of students trained by computer methods.

As stated by Christopher Hope of the Green Chair Group, "Students in the year 2001 will use standard accredited knowledge kits, delivered through standard accredited delivery systems, and be looked after by standard accredited student service organizations."

Despite the changes we can anticipate over the next 20 years, I concur with Marilyn Appelbaum of the Green Chair Group, that society will continue to want and need home study with "thoroughly researched,

individualized pace; reasonable payment plans; hands-on learning experiences; and most importantly, being able to learn in one's own home."

We must continue to revise and devise accreditation processes that will properly evaluate as well as continually encourage the achievement of these objectives.

THE QUESTION OF TURF

by

JOHN D. PHILLIPS

The best way for the Accrediting Commission of the National Home Study Council to protect its "turf" is simply to occupy it as completely as possible.

By "it," I mean not just the traditional correspondence territory, but every telecommunications system, megahertz, and computer byte that conveys educational messages from providers to consumers.

My hope would be that the National Home Study Council might encourage the development of accredited distance education courses from among its current members, and then undertake a carefully developed public information campaign extolling the virtues of NHSC-accredited distant education, as compared with non-accredited, or "bogus" distant courses.

Such a campaign, over a 12 to 18 month period, should establish sufficient public support and acceptance for the National Home Study Council to then suggest to the Department of Education that it ought to be recognized as the principal nationally accrediting agency for all distant education activities.

HOME STUDY'S CRYSTAL BALL

by

WILLIAM A. FOWLER

Predicting the future can be real fun, and most of us like to do it.

Predicting the future of home study/distant education -- an evolving, complex educational method -- is not only fun but also is highly revealing. Our predictions about what tomorrow will bring pretty much reflect our current wishes of how we hope things will be. These predictions can then become self-fulfilling prophecies, and we are able to take smug satisfaction in saying "I told you so."

Correspondence education has been around in this country for over a century. There have been many dramatic -- but slow to happen -- changes in this century of experience. There have been ups and downs in the field, but the 1980's and 90's promise to be largely "up."

As we look to the future of home study, I believe it is safe to make these predictions:

1. Home study courses will continue to be mostly print-based and the majority of the instructional content will be carried by the printed page. These print materials will be designed and packaged and physically shipped by schools to students, not transmitted electronically (e.g., teletext).

2. The most dramatic developments in the home study field will come in school-to-student and student-to-school communications. These interactions will become more efficient, routine and perhaps even less personal (in the interest of speed and economy). Computer-assisted learning in home study will come to mean, more and more, the computer-evaluation of tests submitted by students.

3. The mail system will still be the mainstay for school-student communications followed closely by the telephone. First class mail will remain the primary means for returning lessons, but other non-USPS parcel services, such as United Parcel Service, will assume a larger share of the home study package market.

4. The much ballyhooed gadgetry of today (video discs, video tapes, etc.) will have minimal impact on home study materials. Until the "hardware" is as ubiquitous, uniform, foolproof, and easy to use as the household telephone or TV set today, there is but faint hope for the new technology we've been hearing about. However, schools will make greater use of microcomputer learning units packaged in coures: these units will be lightweight, inexpensive, mailable and

5. Shorter courses, courses for the continuing education of professionals and courses to upgrade mid-career working adults will become increasingly popular. Schools which provide unique, specialized, real-world training in subjects which hold the hope for bringing financial returns to the student will flourish.

6. Finally, the lessons of the 1970's have taught the home study community a lasting lesson: only high quality programs, prompt, conscientious and warm student service, and honest advertising will assure home study its rightful place in the mainstream of American training and education.

The future of the correspondence education field -- or the distant study, field if you prefer -- is a promising one. Technology will play a role in home study's future success, but good old-fashioned values like hard work, integrity, and commitment to quality service on the part of schools and students will insure the survival and growth of this important educational method.

APPENDIX 1

THE FINAL PREDICTION: DISTANT EDUCATION IN 2001

Below are the results of the second (and final) ballot of the members of the Green Chair Group which met in 1981. D/E below means Distant Education.

ENROLLMENT TECHNIQUES & DEMOGRAPHIC PROFILES

D/E enrollment will be part of more complex living-learning-working-recreating social pattern.

The adult population (ages 18 to 70 years) will be the prime source for D/E enrollments.

Mid-life career changes will be accepted as a social norm.

Medical science will further extend life expectancy; there will be a greater proportion of older people in our society who are candidates for D/E.

D/E "mini-lessons" related to leisure activities, e.g., sports, arts, etc. will be popular and reach a large market.

The largest proportion of the D/E student population will consist of those people who can be convinced (sold the idea) that they have the potential to better themselves through the means of D/E -- financially or otherwise.

EDUCATIONAL MATERIALS & STUDENT ACCESS

Home study educators will "rediscover" the media of radio and telephone conference calls as means for direct interaction with students.

Educational materials will be designed to be marketed wholesale, as well as retail.

Courses will be structured to include cognitive and attitudinal learning objectives.

Greater emphasis will be given to the testing and validation of educational materials before they are marketed.

The design and development of D/E courses will be the cooperative effort of several kinds of specialists.

D/E materials will be produced by "course development teams" comprised of academicians, technical writers, and production specialists.

Printed correspondence course text materials will be the key component in the D/E education package of 2001.

Printed materials and lesson assignments will remain an integral part of D/E courses.

Audio-visual devices will be sent to D/E students to be used in conjunction with printed course materials.

EDUCATIONAL SERVICES

Educational services in D/E will continue to mean service to or in support of the educational process.

Adult students will want to interact with advisors, counselors or instructors on a "real time" (now, when they call) basis.

Communications will be the vital link between the student and the instructor.

D/E will be important as a co-delivery system to traditional, resident systems.

Educational services will be tailored for either individual students or organizations sponsoring D/E programs for their employees or members.

The staunchest advocates of D/E will admit that the method is not appropriate for all students.

As the costs of attending resident schools climb higher because of inflation, many will choose D/E as a less expensive alternative.

APPLICATIONS OF DISTANT EDUCATION IN 2001

Professionals will be able to earn credentials in their field via D/E.

Providers of D/E will provide materials and services wholesale to companies, professional organizations, and schools.

Providers of D/E will be accountable to consumers by providing information on the outcomes of their educational services.

Employers will play a greater role in financing D/E activities for their employees.

EDITOR'S NOTE: For a complete copy of the GREEN CHAIR REPORT: DISTANT EDUCATION IN THE YEAR 2001, send a check for $8.00 to the National Home Study Council, 1601 18th Street, N.W., Washington, D. C. 20009.

ERIC OVERVIEW

FACT SHEET No. 22

Clearinghouse on Adult, Career, and Vocational Education

APPENDIX 2

COMMUNICATIONS TECHNOLOGIES IN ADULT, CAREER, AND VOCATIONAL EDUCATION

What Are the Communications Technologies?

Communcations technologies include a range of devices that process and transmit information. The home television and telephone are the most obvious. Others such as microcomputers are gaining acceptance as the cost of production drops, thus allowing their purchase by increasing numbers of individuals and institutions. Examples of communications technologies include the following:

- The television set with its VHF, UHF, and cable capabilities.
- Teletext and viewdata systems for transmitting text over the television. Now used for news, stock reports, weather forecasts, and closed-captions for the deaf, these adaptions can be used to transmit any written text via television.
- Instructional Television Fixed Service and Multipoint Distribution Services are similar services that use television channels for specific purposes such as educational television, special entertainment, or home shopping. These operate on microwave frequencies above the UHF band and provide twenty-eight channels.
- Videodiscs, which provide increased information storage capacity. Currently, videodiscs can store about 50,000 video frames, and this capacity will increase in the near future.
- Direct broadcast satellites that are now available for as little as $2,500 and are estimated to be used in as many as 100,000 homes. These satellites can pick up educational programming directly.
- Personal computers, which are available today for less than $1,000. These are twenty times faster and cost two hundred times less than the computers that were available in 1958. By the early 1990s, computers will be approximately thirty times more powerful than at present.

These communications technologies are being developed and improved at a rapid pace. Their costs are being reduced as their capacity is being increased. This growth in technology is resulting in the "wiring" of the home and other institutional settings, which means that the delivery of education and information can now be accomplished in a variety of settings.

How Will Communications Technologies Influence the Demand for Education?

New communications technologies are being applied in the work place as they are developed. This technological change creates new occupations, eliminates existing occupations, and modifies the requirements for existing occupations.

- From 1949 to 1965, about 3,000 occupations disappeared from the United States labor market while more than 6,000 new occupations were developed (Abbott 1978).
- Many workers will need to retrain three or four times during their careers because of rapid technological advance.
- Microcircuitry, which can replace hundreds of moving parts, is redefining and reducing the number of jobs in many industries. Robots are altering the environment of the assembly line. Printing, textiles, metal and plastic fabrication, instrument engineering, electronics, shipbuilding, and aircraft fabrication are some of the industries that are being affected by this technology (Norman 1980).
- The work place will become a set of human/machine partnerships. The new "basics" required of workers will center on largely nontechnical skills that in many ways resemble those taught in a liberal arts, general education curriculum.
- Theobald (1979) suggests that the following skills will be required: skills to live happily and creatively with others, life-planning skills, decision-making skills, creative change skills, and skills in analyzing the need for stability versus change.

Technological changes will create a need for lifelong education. Educational needs will include (1) specific skill training, (2) skill upgrading as occupations require higher levels of skills, and (3) general skills such as problem-solving, descision-making, and interpersonal relations skills.

How Will Communications Technology Change Education?

The use of communications technologies will influence instruction in several ways:

- They can improve instruction in conventional areas such as drill and practice activities.
- They can provide flexible instruction to meet individual student needs based on current achievement levels and preferred learning styles.
- They can deliver instruction in new knowledge and skills areas through such techniques as simulation. These areas include complex procedural skills such as laboratory procedures, medical skills, advanced writing, equipment troubleshooting, and instrument usage.

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while maintaining cost-effectiveness. Traditionally, education has been labor intensive. The use of communications technology to deliver instruction can increase the productivity of education.
- They can provide cost-effective access to information and knowledge that will help reduce costs associated with more traditional methods of storing, updating, and disseminating information.
- They can increase the variety of settings in which education is delivered. Increasingly, education will move out of the school into the home and other community settings.

The use of communications technologies can remove many of the constraints such as time requirements and geographic distance, that have made it difficult for individuals to participate in educational programs. Through the use of mass media and computer networking, learners will be able to participate in learning activities at home, at the work place, or in other convenient settings.

How Will Communications Technologies Change the Role of the Educator?

While specific technologies may not receive wide acceptance, overall developments will continue. This means that the questions facing educators are: "What strategies are needed to ensure the quality of instruction delivered through these technologies, and what changes in the educator's role are needed in light of these technologies?" The following are possible answers to these questions:

- Communications technology will require educators to function at higher levels. Technology will perform basic education functions such as providing information and administering drill and practice exercises. Educators will need to identify and perform those functions that cannot be delivered by technology.
- Educators will become program developers and learning managers rather than direct instructional deliverers.
- Educators will need to review curriculum and to identify knowledge and skill areas that can become part of the curriculum due to the new instructional capabilities of such communications technologies as simulation.
- Educators will need to coordinate instructional design with private sector learning systems developers, employers, and potential consumers of educational services.
- Educators will need to work cooperatively with parents since communications technologies are increasing the learning capacity of the home.
- Educators will need to seek continuing education to increase their understanding of the educational uses and applications of communications technologies.

This fact sheet is based on the following four papers found in *Communications Technologies: Their Effect on Adult, Career, and Vocational Education* edited by N.E. Singer, Information Series No. 244, Columbus: The ERIC Education, The National Center for Research in Vocational Education, The Ohio State University, 1982. (ERIC Document Reproduction Service No. ED 220 726)

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This fact sheet was developed by Juliet Miller, ERIC Clearinghouse on Adult, Career, and Vocational Education.

THE NATIONAL CENTER FOR RESEARCH IN VOCATIONAL EDUCATION

APPENDIX 3

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